AUTHOR INDEX

Abdel Razek, F.A., *see* Wadie, W.F. and Abdel Razek, F.A.
Bhaskar, M. and Govindappa, S. (Tirupati, India)
Studies on fish liver carbohydrate metabolism during acclimation to sub-lethal acidic and alkaline media 343
Blay, J., Jr. (Achimota, Ghana)
Observations on the balance in fish populations in a small reservoir in Ghana 1
Briggs, R.P. (Coleraine, Gt. Britain)
Catch composition in the Northern Ireland *Nephrops* fishery 47
Bruton, M.N., *see* Tomasson, T. et al.
Carvajal, J. and Cattan, P.E. (Santiago, Chile)
A study of the anisakid infection in the Chilean hake, *Merluccius gayi* (Guichenot, 1848) 245
Cattan, P.E., *see* Carvajal, J. and Cattan, P.E.
Chien, Y.-H. and Condrey, R.E. (Baton Rouge, LA, U.S.A.)
A modification of the DeLury method for use when natural mortality is not negligible 23
Chiu, T.-S., *see* Lui, H.-C. et al.
Christie, A.E., *see* Patrick, P.H. et al.
Condrey, R.E., *see* Chien, Y.-H. and Condrey, R.E.
Da Costa, A. (Rome, Italy)
Book review of *Handbook of Fishery Technology*, Vols. 1 and 4. V.M. Novikov (Editor) 375
Dikov, Ts.J., *see* Penczak, T. et al.
Ferro, R.S.T., *see* Stewart, P.A.M. and Ferro, R.S.T.
Furtado, J.I. (London, Gt. Britain)
Book review of *Small-scale Fisheries of San Miguel Bay, Philippines: Biology and Stock Assessment.* D. Pauley and A.N. Mines (Editors) 379
Book review of *Small-scale Fisheries of San Miguel Bay, Philippines: Occupational and Geographic Mobility* by C. Bailey 379
Govindappa, S., *see* Bhaskar, M. and Govindappa, S.
Green, A.W., Matlock, G.C. (Austin, TX, U.S.A.), Osburn, H.R. and Hegen, H.E. (Rockport, TX, U.S.A.)
Estimated survival rates for immature red drum in northwest Gulf of Mexico bays 263
Hamman, K.C.D., *see* Tomasson, T. et al.
Hegen, H.E., *see* Green, A.W. et al.
Hill, B.J. and Wassenberg, T.J. (Cleveland, Qld., Australia)
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell) 223
Hocutt, C., *see* Patrick, P.H. et al.
Jankov, J., *see* Penczak, T. et al.
Johnson, H.T. (Haymarket, N.S.W., Australia)
Book review of *Freshwater Crayfish* by V. Charles and R. Goldman 178
Jørgensen, L. (Trondheim, Norway)
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents 337
Kent, G. (Honolulu, HI, U.S.A.)
Book review of *A Japanese Fishing Joint Venture: Worker Experience and National Development in the Solomon Islands* by S.K. Meltzoff and E.S. LiPuma 382

Kesteven, G.L. (Hurtsville, N.S.W., Australia)
Book review of *Marine Resource Economics.* Jon G. Sutinen (Editor) 174
Book review of *Scallop and Queen Fisheries in the British Isles* by J. Mason 178
Lanzing, W.J.R. (Sydney, Australia)
Book review of *Histology of the Striped Bass* by D.B. Groman 376
Lewis, M.R. (Halifax, Nova Scotia, Canada)
Book review of *Polarographic Oxygen Sensors: Aquatic and Physiological Applications.* E. Gnaiger and H. Forstner (Editors) 173
Lleonart, J., Salat, J. and Macpherson, E. (Barcelona, Spain)
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Longhurst, A.R. (Dartmouth, Nova Scotia, Canada)
Book review of *North Sea Dynamics.* J. Sündermann and W. Lenz (Editors) 82
Lui, H.-C., Chiu, T.-S. (Taipei, Taiwan) and Sainsbury, K.J. (Cronulla, N.S.W., Australia)
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105
Macpherson, E., *see* Lleonart, J. et al.
Main, J. and Sangster, G.I. (Aberdeen, Gt. Britain)
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
Manooch, C.S., III, *see* Mason, D.L. and Manooch, C.S., III.
Marais, J.F.K. (Port Elizabeth, S. Africa)
Some factors influencing the size of fishes caught in gillnets in eastern Cape estuaries 251
Mason, D.L. and Manooch, C.S., III (Beaufort, NC, U.S.A.)
Age and growth of mutton snapper along the east coast of Florida 93
Matlock, G.C., *see* Green, A.W. et al.
Meenakumari, B. and Mohan Rajan, K.V. (Cochin, India)
Studies on materials for traps for spiny lobsters. 309
Mitchell, C.L. (Nepean, Ont., Canada)
Book review of *The Legal Regime of Fisheries in the Caribbean Region* by W.R. Edeson and J.F. Pulvenis 380
Mohan Rajan, K.V., *see* Meenakumari, B. and Mohan Rajan, K.V.
Nakken, O. (Bergen-Nordnes, Norway)
Book review of *Fisheries Sonar* by R.B. Miston 81
Nauen, C.E. (Rome, Italy)
Book review of *Acid Rain/Fisheries.* T.A. Haines, Chairman and R.E. Johnson (Editor) 384
Osburn, H.R., *see* Green, A.W. et al.
Patrick, P.H., Christie, A.E. (Toronto, Ont., Canada), Sager, D., Hocutt, C. and Stauffer, J., Jr. (Cambridge, MD, U.S.A.)
Responses of fish to a strobe light/air-bubble barrier 157
Patterson, R.N. and Watts, K.C. (Halifax, Nova Scotia, Canada)
The otter board as a low-aspect-ratio wing at high angles of attack; some theoretical aspects 351
Penczak, T., Jankov, J., Dikov, Ts.J. and Zalewski, M. (Samokov, Bulgaria)
Fish production in the Mesta River, Rila Mountain, Samokov, Bulgaria 201
Quinn, T.J., II (Seattle, WA, U.S.A.)
Line transect estimators for schooling populations. 183
Qvenild, T., *see* Skurdal, J. et al.
Sager, D., *see* Patrick, P.H. et al.
Sainsbury, K.J., *see* Lui, H.-C. et al.
Salat, J., *see* Lleonart, J. et al.

Sangster, G.I., *see* Main, J. and Sangster, G.I.
Skurdal, J., Vøllestad, L.A. (Oslo, Norway) and Qvenild, T. (Hamar, Norway)
Comparison of scales and otoliths for age determination of whitefish *Coregonus lavaretus* 237
Stauffer, J., Jr., *see* Patrick, P.H. et al.
Stewart, P.A.M. and Ferro, R.S.T. (Aberdeen, Gt. Britain)
Measurements on gillnets in a flume tank 29
Tang, Q. (Solomons, MD, U.S.A.)
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
Thresher, R.E. (Hobart, Tasmania, Australia)
Book review of *Caribbean Coral Reef Fishery Resources.* J.L. Munro (Editor). 373
Tomasson, T., Bruton, M.N. (Grahamstown, S. Africa) and Hamman, K.C.D. (Stellenbosch, S. Africa)
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
Vøllestad, L.A., *see* Skurdal, J. et al.
Wadie, W.F. and Abdel Razek, F.A. (Alexandria, Egypt)
The effect of damming on the shrimp population in the south-eastern part of the Mediterranean Sea 323
Wassenberg, T.J., *see* Hill, B.J. and Wassenberg, T.J.
Watts, K.C., *see* Patterson, R.N. and Watts, K.C.
Weihs, D. (Haifa, Israel)
Book review of *Fish Locomotion* by R.W. Blake 377
Zalewski, M. (Banacha, Poland)
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
see Penczak, T. et al.

SUBJECT INDEX

Acid rain
Acid rain (book review) 384
Acidic media
Studies on fish liver carbohydrate metabolism during acclimation to sub-lethel acidic and alkaline media 343
Acoustic systems
Fisheries sonar (book review). 81
Age
Age and growth of mutton snapper along the east coast of Florida 93
Age determination
Comparison of scales and otoliths for age determination of whitefish *Coregonus lavaretus* 237
Air bubbles
Responses of fish to a strobe light/air-bubble barrier 157
Alkaline media
Studies on fish liver carbohydrate metabolism during acclimation to sub-lethel acidic and alkaline media 343
Anisakid infection
A study of the anisakid infection in the Chilean hake, *Merluccius gayi* (Guichenot, 1848). 245
Australia
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105
Avoidance behavior
Responses of fish to a strobe light/air-bubble barrier 157
Barbus holubi
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
Barrier
Responses of fish to a strobe light/air-bubble barrier 157
Biomass
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Blue crab fishery
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
Bottom trawls
The otter board as a low-aspect-ratio wing at high angles of attack; some theoretical aspects 351
British Isles
Scallop and queen fisheries (book review) 178
Bulgaria
Fish production in the Mesta River, Rila Mountain, Samokov, Bulgaria 201
By-catch
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
Cannibalism
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Carbon
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents 337

Carbohydrate metabolism
Studies on fish liver carbohydrate metabolism during acclimation to sub-lethel acidic and alkaline media 343
Caribbean
Coral reef fishery (book review) 373
Fisheries law in the Caribbean (book review) 380
Catch composition
Catch composition in the Northern Ireland *Nephrops* fishery 47
Chile
A study of the anisakid infection in the Chilean hake, *Merluccius gayi* (Guichenot, 1848) 245
Cod
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents. 337
Cod-end mesh
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105
Coral reef fishery
Coral reef fishery (book review) 373
Coregonus lavaretus
Comparison of scales and otoliths for age determination of whitefish *Coregonus lavaretus* 237
Crayfish
Freshwater crayfish (book review) 178
Cross-currents
The otter board as a low-aspect-ratio wing at high angles of attack; some theoretical aspects 351
CVPA
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Cyprinids
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
Damming
The effect of damming on the shrimp population in the south-eastern part of the Mediterranean Sea 323
DeLury method
A modification of the DeLury method for use when natural mortality is not negligible 23
Density
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Discarding rates
Catch composition in the Northern Ireland *Nephrops* fishery 47
Economics
Marine economics (book review) 174
Efficiency
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Eggs
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents. 337
Electrofishing
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Escapement
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105

Exclusion barrier
Responses of fish to a strobe light/air-bubble barrier 157
Fecundity
Fish production in the Mesta River, Rila Mountain, Samokov, Bulgaria 201
Fish density
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Fishing capacity
Measurements on gill nets in a flume tank 29
Florida
Age and growth of mutton snapper along the east coast of Florida 93
Flume tank
Measurements on gill nets in a flume tank 29
Freshwater crayfish
Freshwater crayfish (book review) 178
Gadoid
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
Gadus morhua L.
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents 337
Ghana
Observations on the balance in fish populations in a small reservoir in Ghana 1
Gillnets
Measurements on gillnets in a flume tank 29
Some factors influencing the size of fishes caught in gillnets in eastern Cape estuaries 251
Growth
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell) 223
Age and growth of mutton snapper along the east coast of Florida 93
Hake
A study of the anisakid infection in the Chilean hake, *Merluccius gayi* (Guichenot, 1848) 245
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Hydrological management
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
India
Studies on materials for traps for spiny lobsters 309
Inland waters
Observations on the balance in fish populations in a small reservoir in Ghana 1
Labeo capensis
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
Larvae
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents 337
Law
Fisheries law in the Caribbean (book review) 380
Light
Responses of fish to a strobe light/air-bubble barrier 157
Line transect estimators
Line transect estimators for schooling populations 183

Liver carbohydrate metabolism
Studies on fish liver carbohydrate metabolism during acclimation to sub-lethel acidic and alkaline media 343
Lobsters
Studies on materials for traps for spiny lobsters. 309
Locomotion
Locomotion (book review) 377
Lutjanus analis
Age and growth of mutton snapper along the east coast of Florida 93
Management
Responses of fish to a strobe light/air-bubble barrier 157
Mediterranean Sea
The effect of damming on the shrimp population in the south-eastern part of the Mediterranean Sea 323
Merluccius capensis
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Merluccius gayi (Guichenot, 1848)
A study of the anisakid infection in the Chilean hake, *Merluccius gayi* (Guichenot, 1848). 245
Mesh size
Some factors influencing the size of fishes caught in gillnets in eastern Cape estuaries 251
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105
Mexico
Estimated survival rates for immature red drum in northwest Gulf of Mexico bays 263
Modelling
A modification of the DeLury method for use when natural mortality is not negligible 23
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
Mortality
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell). 223
A modification of the DeLury method for use when natural mortality is not negligible 23
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Estimated survival rates for immature red drum in northwest Gulf of Mexico bays 263
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
Moulting
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell). 223
Mutton snapper
Age and growth of mutton snapper along the east coast of Florida 93
Namibia
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Nephrops
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery. 131

Nephrops norvegicus
Catch composition in the Northern Ireland *Nephrops* fishery 47
Nets
Measurements on gill nets in a flume tank 29
Nitrogen
Carbon and nitrogen utilization in developing eggs and larvae of cod (*Gadus morhua*, L.) and variation among different parents. 337
Nocturnal emergence
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell). 223
North sea dynamics
North sea dynamics (book review) 82
Northern Ireland
Catch composition in the Northern Ireland *Nephrops* fishery 47
Otoliths
Comparison of scales and otoliths for age determination of whitefish *Coregonus lavaretus* 237
Otter board
The otter board as a low-aspect-ratio wing at high angles of attack; some theoretical aspects 351
Oxygen sensors
Polarographic oxygen sensors (book review) 173
Penaeus esculentus (Haswell)
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell). 223
Philippines
Small-scale fisheries (book review) 379
Polarographic oxygen sensors
Polarographic oxygen sensors (book review) 173
Population dynamics
A modification of the DeLury method for use when natural mortality is not negligible 23
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
Observations on the balance in fish populations in a small reservoir in Ghana 1
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
The effect of damming on the shrimp population in the south-eastern part of the Mediterranean Sea 323
Population estimates
Fish production in the Mesta River, Rila Mountain, Samokov, Bulgaria 201
Line transect estimators for schooling populations. 183
Predation
Observations on the balance in fish populations in a small reservoir in Ghana 1
Production
Fish production in the Mesta River, Rila Mountain, Samokov, Bulgaria 201
Observations on the balance in fish populations in a small reservoir in Ghana 1
Queens fisheries
Scallop and queen fisheries (book review) 178
Red drum
Estimated survival rates for immature red drum in northwest Gulf of Mexico bays 263

Ricker stock recruitment model
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
Rivers
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Scales
Comparison of scales and otoliths for age determination of whitefish *Coregonus lavaretus* 237
Scallop fisheries
Scallop and queen fisheries (book review) 178
Schooling populations
Line transect estimators for schooling populations 183
Selection factor
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105
Separator panel
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
Shrimp fishery
The effect of damming on the shrimp population in the south-eastern part of the Mediterranean Sea 323
Size of fish
Some factors influencing the size of fishes caught in gillnets in eastern Cape estuaries 251
Small-scale fisheries
Small-scale fisheries (book review) 379
Solomon Islands
Fishing in the Solomon Islands (book review) 382
Sonar
Fisheries sonar (book review) 81
South Africa
Some factors influencing the size of fishes caught in gillnets in eastern Cape estuaries 251
The demography and management of large cyprinids in a reservoir on the Orange River, South Africa 279
Specimen size
The estimate of fish density and biomass in rivers on the basis of relationships between specimen size and efficiency of electrofishing 147
Spiny lobsters
Studies on materials for traps for spiny lobsters 309
Streamer tags
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell) 223
Striped bass
Striped bass (book review) 376
Strobe light
Response of fish to a strobe light/air-bubble barrier 157
Survival rates
Estimated survival rates for imamture red drum in northwest Gulf of Mexico bays 263
Tags
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell) 223

Technology
Fishery technology (book review). 375
Tiger prawn
A laboratory study of the effect of streamer tags on mortality, growth, moulting and duration of nocturnal emergence of the tiger prawn *Penaeus esculentus* (Haswell) 223
Tilapia mossambica (Peters)
Studies on fish liver carbohydrate metabolism during acclimation to sub-lethel acidic and alkaline media 343
Towing-resistance
The otter board as a low-aspect-ratio wing at high angles of attack; some theoretical aspects 351
Traps
Studies on materials for traps for spiny lobsters. 309
Trawl doors
The otter board as a low-aspect-ratio wing at high angles of attack; some theoretical aspects 351
Trawling
Trawl cod-end mesh selectivity for some fishes of north-western Australia 105
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
Two-level net
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
U.S.A.
Modification of the Ricker stock recruitment model to account for environmentally induced variation in recruitment with particular reference to the blue crab fishery in Chesapeake Bay 13
VPA
CVPA, an expanded VPA with cannibalism. Application to a hake population 61
Whitefish
Comparison of scales and otoliths for age determination of whitefish *Coregonus lavaretus* 237
Trawling experiments with a two-level net to minimise the undersized gadoid by-catch in a *Nephrops* fishery 131
Yield
Age and growth of mutton snapper along the east coast of Florida 93